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In re Application of Chaya et al. Application No. Unassigned

REMARKS

The foregoing amendments are made to correct minor translational errors and to meet United States requirements as to form. No new matter is added.

Respectfully submitted,

LEXDIG, VOIT & MAYER, LTD.

'Jeffrey A. Wyand, (Registration No. 29,458

Suite 300

700 Thirteenth Street, N. W. Washington, D. C. 20005

Telephone: (202) 737-6770

Facsimite, (202) 737-6776

Date: Why 10 1001

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

KANAYA et al.

Application No.

Unassigned

Art Unit:

Unassigned

Filed:

October 10, 2001

Examiner:

Unassigned

For:

HIGH FREQUENCY SEMICONDUCTOR INTEGRATED CIRCUIT CAPABLE OF SWITCH-

ING BETWEEN

CHARACTERISTICS

THEREOF

AMENDMENTS TO SPECIFICATION, CLAIMS, AND ABSTRACT MADE VIA PRELIMINARY AMENDMENT

Amendments to the paragraph beginning at page 1, line 13:

Main circuit 610 includes an input terminal 6101, a transistor 6102, transmission lines 6103 and 6104, and an output terminal 6105. Transistor 6102 is connected to input terminal 6101 at-the_its gate terminal-thereof and, to a ground node 7 at-the_its source terminal-thereof, and to transmission line 6103 at-the_its drain terminal-thereof. Transistor 6102 is, to be-concrete_specific,-constituted-of a field effect transistor such as a MOS transistor_FET, or a MES FET (Metal Semiconductor Field Effect Transistor), HEMT (High Electron Mobility Transistor) or HBT (Heterojunction Bipolar Transistor) made from GaAs.

Amendments to the paragraph beginning at page 2, line 18:

In prior art high frequency semiconductor integrated circuit 600, however, circuit block 620 is connected to node 6106 of main circuit 610; therefore, when only main circuit 610 is desired to be used, or when a high frequency semiconductor integrated

circuit having a different performance is requested, a problem-arise arises since separate circuit patterns are required. That is, when passive circuits 6201 and 6202, each constituted of a passive element optimized for output matching, are incorporated into circuit block 620, only main circuit 610 cannot be used and further, high frequency semiconductor integrated circuit 600 cannot be differently used as a high frequency semiconductor integrated circuit for use in achieving efficiency matching.

Amendments to the paragraph beginning at page 6, line 22:

Fig. 21 is a plan view showing an eonerete a specific example of one of two high frequency semiconductor integrated circuits shown in Fig. 20; and

Amendments to the existing claims:

- 1. (Amended) A high frequency semiconductor integrated circuit comprising:
- a main circuit having an active element and a first pad-therein;
- a circuit block-constituted of a passive element;
- a second pad connected to said circuit block; and
- a wire-to-connecting said first pad to said second pad.
- 2. (Amended) The high frequency semiconductor integrated circuit according to claim 1, wherein said main circuit includes an input terminal and an output terminal and said active element and said first pad are located between—an said input terminal and—an said output terminal.
- 3. (Amended) The high frequency semiconductor integrated circuit according to claim 2, wherein said-eireuit-block includes a passive element-whose has an impedance that decreases with an increase in frequency of an input signal-inputted-at input to said input terminal.

- 4. (Amended) The high frequency semiconductor integrated circuit according to claim 2, wherein said circuit block includes an interconnect connected to said second pad and the sum of a length of wherein said wire and a length of said interconnect is equal to have lengths totaling one-fourth of a wavelength of a high frequency signal input to said input terminal.
- 5. (Amended) A high frequency semiconductor integrated circuit comprising: a main circuit having an active element and a main pad-therein; plural circuit blocks, each <u>circuit block</u> constituted of a passive element; plural connection pads-<u>provided correspondingly corresponding</u> to <u>said</u> respective plural circuit blocks; and
 - a wire for connecting said main pad to one of said plural connection pads.
- 6. (Amended) The high frequency semiconductor integrated circuit according to claim 5, wherein said main circuit includes <u>an input terminal and an output terminal and</u> said active element and said main pad <u>are located</u> between <u>an said</u> input terminal and <u>said</u> output terminal.
- 7. (Amended) The high frequency semiconductor integrated circuit according to claim 6, wherein said plural circuit blocks include:
- a first circuit block for adjusting an impedance of said main circuit to-be a first impedance;
- a second circuit block for adjusting-said the impedance of said main circuit to-be a second impedance; and
- a third circuit block for adjusting—said_the impedance of said main circuit to—be a third impedance.
- 8. (Amended) The high frequency semiconductor integrated circuit according to claim 7, wherein

said first circuit block is constituted of a first capacitor having a first-capacity, capacitance and connected to a ground node at-one a first end-thereof of said first

<u>capacitor</u> and a first connection pad at the other a second end thereof of said first capacitor,

said second circuit block is constituted of a second capacitor having a second eapacity, capacitance and connected to the ground node at-one a first end-thereof of said second capacitor and a second connection pad at-the-other a second end-thereof of said second capacitor, and

said third circuit block is constituted of a third capacitor having a third-eapacity, capacitance and connected to the ground node at-one a first end-thereof of said third capacitor and a third connection pad at-the other a second end-thereof of said third capacitor.

10. (Amended) The high frequency semiconductor integrated circuit according to claim 9, wherein

said first high frequency semiconductor integrated circuit comprises a main circuit having an active element and a circuit block having a passive element; and

said second high frequency semiconductor integrated circuit includes only a main circuit having an active element.

11. (Amended) The high frequency semiconductor integrated circuit according to claim 10, wherein

said second high frequency semiconductor integrated circuit includes a first main circuit having a first active element and a first pad, and

said first high frequency semiconductor integrated circuit includes:

- a circuit block having a passive element;
- a second pad connected to said circuit block;
- a second main circuit having a third pad for connecting said first and second pads to each other, and a second active element; and
- a wire for connecting said second pad to said third pad, wherein said main wire connects said first pad to said third pad.

12. (Amended) The high frequency semiconductor integrated circuit according to claim 11, wherein

said first main circuit further includes:

an interconnect connected at a first end to said first pad at one end thereof and at a second end to said first active element at the other end thereof; and an output terminal connected to said first active element, and said second main circuit further includes:

an interconnect connected at a first end to said third pad at one end thereof and at a second end to said second active element at the other end thereof; and an input terminal connected to said second active element.

- 13. (Amended) The high frequency semiconductor integrated circuit according to claim 12, wherein said circuit block includes a passive element for matching an impedance of said first main circuit to an impedance of said second main circuit.
- 14. (Amended) The high frequency semiconductor integrated circuit according to claim 9, wherein

said first high frequency semiconductor integrated circuit includes only—a one main circuit having an active element, and

said second high frequency semiconductor integrated circuit includes only—a_one circuit block having a passive element.

15. (Amended) The high frequency semiconductor integrated circuit according to claim 14, wherein

said first high frequency semiconductor integrated circuit includes a main circuit having an active element and a main pad, and

said second high frequency semiconductor integrated circuit includes plural circuit blocks, each <u>circuit block</u> having a passive element, and

plural connection pads-provided correspondingly corresponding to said respective plural circuit blocks, wherein said main wire connects said main pad to one of said plural connection pads.

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Amendments to the abstract:

ABSTRACT OF THE DISCLOSURE

A high frequency semiconductor integrated circuit includes a main circuit, a circuit block, a pad, and a wire. The main circuit includes an input terminal, a transistor, transmission lines, a pad, and an output terminal. The circuit block includes a passive circuit; and a capacitor. The pad is disposed close to the circuit block. The wire connects the pad to the pad included in the main circuit. In the high frequency semiconductor integrated circuit, the main circuit outputs an input signal input at the input terminal from the output terminal through the transistor, the transmission line, the pad, and another transmission line. As a result, the high frequency semiconductor integrated circuit can realize various kinds of its performances and thereby can be used to in many applications.